



1	ggtttaatta	cccaagtttg	agctccaaga	gcacacatct	gatacgtcggg
51	ttctactgta	ctccccgaaa	aaccaacaaa	aaacacaagt	ttttgaacac
101	ttgtaaagtgc	agacagaaacg	atgacgagaa	tgaatattgt	cagatgtcgg
151	agacgacaca	aaatttttggg	aaattttggaa	gaagagaatc	tcggcccgag
201	ctgctcgtcg	acgacttcaa	caaccgctgc	caccgaagct	ctcggaaacaa
251	ccactgagga	tatgaggctt	aagcagcagc	gaagctcgtc	gcgtgccacg
301	gagcacgata	ttgtcgacgg	caatcaccac	gacgacgagc	acatcacaat
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401	ccgattcaag	tatggactgc	tatgaggaaa	acccgccatc	acaaaaactt
451	caataaatta	ttcttggatt	tctaaaaagt	catcaatgac	gtcattaatg
501	cttttactgc	tattcgcttt	tgtacagccg	tgtgcctcaa	tagtcgaaaa
551	acgatgcggc	ccaatcgata	ttcgaaatag	gccgtgggat	attaagccgc
601	aatggtcgaa	acttggtgat	ccgaacgaaa	aagatttggc	tggtcagaga
651	atggtcaact	gcacagtgg	ggaagggttcg	ctgacaatct	catttgtact
701	gaaacacaag	acaaaagcac	aagaagaaat	gcacgcaagt	ctacagccaa
751	gatattccca	agacgaattt	atcacttttc	cgcatctacg	tgaaattact
801	ggaactctgc	tcgtttttga	gactgaagga	ttagtggtg	tgcgtaaaat
851	tttcccaaat	cttcgtgtaa	ttggaggccg	ttcgttgatt	caacactatg
901	cgctgataat	ttatcgaaat	ccggatttgg	agatcgggtc	tgacaagctt
951	tcgtaattc	gaaatgggtg	tgtacggata	atcgataatc	gaaaactgtg
1001	ctacacgaaa	acgattgatt	ggaacattt	gatcacttct	tccatcaacg
1051	atgttgctgc	tgataatgct	gccgagtacg	ctgtcactga	gactggattg
1101	atgtgccac	gtggagcttg	cgaagaggat	aaaggcgaat	caaagtgtca
1151	ttatttggag	gaaaagaatc	aggaacaagg	tgtcgaaaga	gttcagagtt
1201	gttggtcgaa	caccacttgc	caaaagtctt	gtgcttatga	tcgtcttctt
1251	ccaacgaaag	aaatcggacc	gggatgtgat	gcgaacggcg	atcgatgtca
1301	cgatcaatgc	gtgggcggtt	gtgagcgtgt	gaatgatgcc	acagcatgcc
1351	acgcgtgcaa	gaatgtctat	cacaagggaa	agtgtatcga	aaagtgtgat
1401	gctcacctgt	accttctcct	tcaacgtcgt	tgtgtgacct	gtgagcagtg
1451	tctgcagctg	aatccgggtg	tctcgaacaa	aacagtgcct	atcaaggcga
1501	cggcaggcct	ttgctcggat	aaatgtcccg	atggttatca	aatcaaccg
1551	gatgatcatc	gagaatgccg	aaaatgcgtt	ggcaagtgtg	agattgtgtg
1601	cgagatcaat	cacgtcattg	atagctttcc	gaaggcacag	gcatcaggc
1651	tatgcaatat	tattgacgga	aatctgacga	tcgagattcg	cggaaaacag
1701	gattcgggaa	tggcgtccga	gttgaaggat	atatttgcga	acattcacac
1751	gatcaccggc	tacctgttgg	tacgtcaatc	gtcacccgtt	atctcgttga
1801	acatgttccg	gaatttacga	cgtattgagg	caaagtcaat	gttcagaaat
1851	ctatatgcta	tcacagtttt	tgaaaatccg	aatttataaa	agctattcga
1901	ttcaacgacg	gatttgacgc	ttgatcgtgg	aactgtgtca	attgccaata
1951	acaagatgtt	atgcttcaag	tatatcaagc	agctaattgc	aaagttaa
2001	ataccactcg	atccgataga	tcaatcagaa	gggacaaatg	gtgagaagg
2051	aatctgtgag	gatattggca	tcaacgtgag	catcacagcg	gtcaacgcgg
2101	actcgttctt	ctttagttgg	ccctcattca	acattaccga	tatagatcag
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2201	tgagaacatg	acgatcgaag	aggatcgaag	tgcgtgtgtc	gattcgtggc
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2401	acgggtgata	gaagattgg	tttgtgagga	cgagctacta	tacgcctgat
2451	cctccgacgt	tggcactagc	gcaagtcgat	tcggacgcta	ttcatattac
2501	gtgggaagcg	ccgctccaac	cgaacgggag	cctcacgcac	tacacaatta
2551	tgtggcgtga	gaatgaagt	agcccgtag	aggaagccga	aaagttttgt
2601	acagatgcaa	gcacccccgc	aaatcgacaa	cgcacgaaag	atccgaaaga
2651	gacgattgta	gccgataagc	cagtcgatat	tccgtcatca	cgtaccgtag
2701	ctccgacact	tttgactatg	atgggtcacg	aagatcagca	gaaaacgtgc

Fig. 2B-1



Replacement Sheet

Title: Therapeutic and Diagnostic Tools for Impaired Glucose

Tolerance Conditions

Applicant(s): Gary Ruvkun et al. Filing Date: April 27, 2001

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```
2751 gctgcaacgc cgggttggtt ttcgtgttcg gctatcgaag aatcatcgga
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2851 catttgagaa taagctgttg gatgagggtt taatgccgag agacacgatg
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2951 aaaagctgaa aatttgggaa aagctccaaa aactctcggt ggaaagaagc
3001 cgctgatcca tatttcgaag aagaagccgt cgagcagcag caccacatcc
3051 acaccggctc caacgatcgc atcaatgtat gccttaacaa ggaaaccgac
3101 tacgggtgccg ggaacaagga ttcgggtccta cgagatctac gaacctttac
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3251 gtgccaaaac atgacagtac ccggagcadc ttgctcaata tcccacgtg
3301 cgggagcatt gaaacgaaca aaacacatca cagacattga taaagtgttg
3351 aatgaaacaa ttgaatggag atttatgaat aatagtcacac aagtcacagt
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3651 ggcttcttca ctgtggaaat cattctcggc atgcttctcg tctttttgat
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3751 acggcaaaaa agtgaaagct ctatctgact ttatgcaatt gaatcccga
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4751 ttcagaagca ctggatcttg atgatattga tgatactgat atgaatgatc
4801 aggttgtcga ggtggcaccg gatgttgaga acgtcgaggt tcagagtgat
4851 tcggaacgtc ggaatacggg ttcaataccg ttgaaacagt ttaagacgat
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5451 gatcgattaa ctcaactacc cggaaactgga catttacaat cgacacgtgg
5501 tggacaagat ggagattata ttgaaactga accgaaaaat tatagaaata
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Fig. 2B-2



Replacement Sheet
Title: Therapeutic and Diagnostic Tools for Impaired Glucose
Tolerance Conditions
Applicant(s): Gary Ruvkun et al. Filing Date: April 27, 2001
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```
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5601 tcggctttcg gtgaaaatga gcatctaatac gaggataatg agcatcatcc
5651 acttgtctga aacccccaaa aaatcccgcc tcttaaatta taaattatct
5701 cccacattat catatctcta cacgaatatac ggattttttt tcagattttt
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5801 tttttgttat tacccc
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Fig. 2B-3

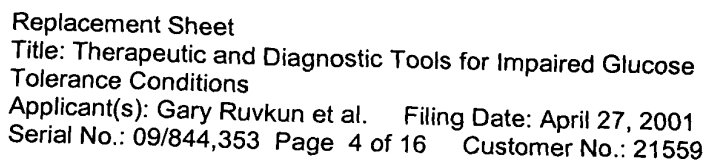


Diagram illustrating the domain organization and sequence homology of the Insulin/IGF-I receptor, Drosophila, and DAF-2. The diagram shows three horizontal bars representing the proteins. The Insulin/IGF-I receptor bar is divided into segments with different patterns: a hatched segment labeled 'ligand-binding', a dotted segment labeled 'cys', and a solid white segment. The Drosophila and DAF-2 bars also show these segments. Percentages of sequence identity are indicated between the bars: 36(35)% between Insulin/IGF-I receptor and Drosophila, 24(26)% between Insulin/IGF-I receptor and DAF-2, 33% between Drosophila and DAF-2, 24(22)% between Insulin/IGF-I receptor and DAF-2, 24% between Drosophila and DAF-2, and 48% between Drosophila and DAF-2. A scale bar at the top indicates 100 aa. An arrow points to the C-terminal region of the DAF-2 bar, labeled 'IRS-1-like'.

Fig. 2C-1

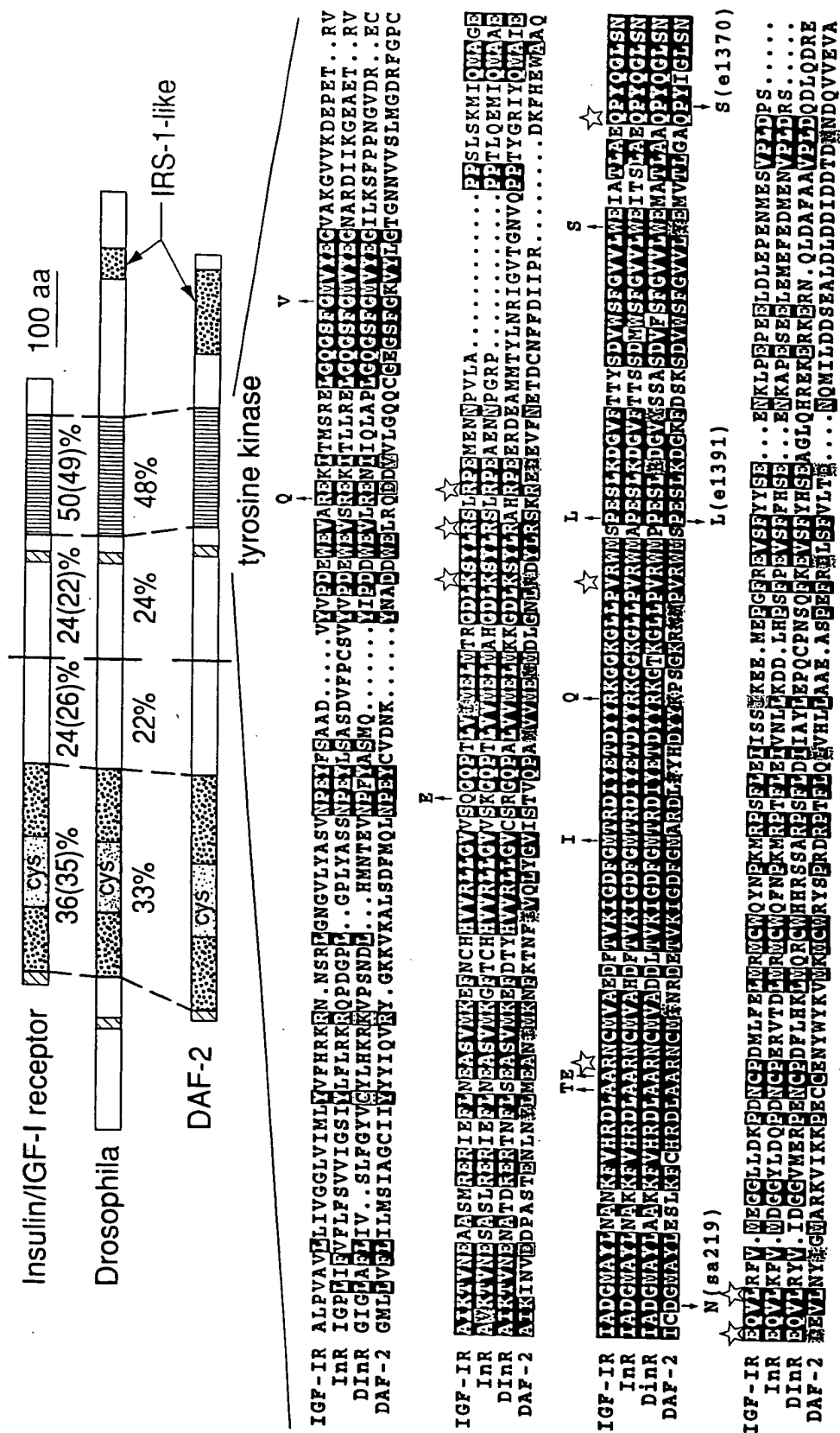


Fig. 2C-2



Replacement Sheet

Title: Therapeutic and Diagnostic Tools for Impaired Glucose Tolerance Conditions

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51 gatgtcacca gtgaatacaa ctacaaagat tctacaacgg agtggtatta
101 aaatggaaat cccgccatat ttggatccag acagtcagga tgatgaccgg
151 gaagatggtg tcaactaccc ggatccagat ttatttgaca caaaaaacac
201 aaatatgacc gagtacgatt tggatgtgtt gaagcttggg aaaccagcag
251 tagatgaagc acggaaaaag atcgaagttc ccgacgctag tgcgccgcca
301 aacaaaattg tagaatattt gatgtattat agaacgttaa aagaaagtga
351 actcatacaa ctgaatgcgt atcggacaaa acgaaatcga ttatcgttga
401 acttggtcaa aaacaatatt gatcgagagt tcgacaaaaa agcttgcgag
451 tccctggtga aaaaattgaa ggataagaag aatgatctcc agaacctgat
501 tgatgtggtt ctttcaaaag gtacaaaata taccggttgc attacaattc
551 caaggacact tgatggccgg ttacaggtcc acggaagaaa aggtttccct
601 cacgtagtct atggcaaact gtggaggttt aatgaaatga caaaaaacga
651 aacgcgtcat gtggaccact gcaagcacgc atttgaaatg aaaagtgaca
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801 ctaccacact ccaggtcggc aggatccagt tgacgatatg agtagattta
851 taccaccagc ttccattcgt ccgcctccga tgaacatgca cacaaggcct
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1901 aaaaccgcat gaagtaccgg gtatttgtca cttctgggta tctcgacgag
1951 caatcaggag gcctaaagaa ggataaagtg cacaagttt acggatgtgc
2001 gtctatcaaa acgtttggct tcaacgtttc caaacaatc atcagagacg
2051 cgcttctttc caagcaaagt gcaacaatgt acttgcaagg aaaattgact
```

Fig. 11A-1



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2201	cgttctgcaa	aggatttggga	gaagcatacc	cagaacgccc	gtcaattcat
2251	gattgtccag	tttggattga	gttgaaaatc	aacattgcct	acgatttcat
2301	ggattcaatc	tgccagtaca	taaccaactg	cttcgagccg	ctaggaatgg
2351	aagattttgc	aaaattggga	atcaacgtca	gtgatgacta	aatgataact
2401	tttttcactc	accctactag	atactgattt	agtcttattc	caaatcatcc
2451	aacgatatca	aactttttcc	tttgaacttt	gcatactatg	ttatcacaag
2501	ttccaagcag	tttcaataca	aacataggat	atgttaacaa	cttttgataa
2551	gaatcaagtt	accaactggt	cattgtgagc	tttgagctgt	atagaaggac
2601	aatgtatccc	atacctcaat	ctttaatagt	catcagtcac	tggtcccgcga
2651	ccaatttttt	cgattcgcat	atgtcatata	ttgcaccgtg	gcccttttta
2701	ttgtaacttt	taatataatt	tcttcccaac	ttgtgaatat	gattgatgaa
2751	ccaccatttt	gagtaataaa	tgtatttttt	gtgg	

Fig. 11A-2



```
1 gtaatcaa at tgtaaaggaa aaatattaat agtcagagta cacataaatg
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101 gttcaactat tctcagcccg gtaccagcac cggaggcccg ctttatggtg
151 gaaaaccttc tcatggattg gaagatattc ctgatgtaga ggaatatgag
201 aggaacctgc tcggggctgg agcaggtttt aatctgctca atgtaggaaa
251 tatggcta at gttcccgcgc agcacacacc gatgatgtca ccagtgaata
301 caactacaaa gattctacaa cggagtggta ttaaaatgga aatcccccca
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Fig. 11B-1



Replacement Sheet

Title: Therapeutic and Diagnostic Tools for Impaired Glucose Tolerance Conditions

Applicant(s): Gary Ruvkun et al. Filing Date: April 27, 2001

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Fig. 11B-2



1	gtaatcaa	at	tgtaaagg	aa	aatatta	agtcagag	ta	cacataa	atg
51	ggtgatc	atc	ataattt	aa	gggcctt	ccc	ggtacct	cca	tcccgcc
101	gttcaac	tat	tctcagc	ccg	gtaccag	cac	cggaggc	ccc	ctttatg
151	gaaaacc	ttc	tcatgg	attg	gaagata	ttc	ctgatgt	aga	ggaatat
201	aggaacc	tgc	tcgggg	ctgg	agcaggt	ttt	aatctgt	ctca	atgtagg
251	tatggct	aat	gaattta	aa	caataat	cac	attggac	cag	aaaccac
301	gtgatgc	caa	caagtc	attg	gcattca	atg	gcgggtt	gaa	gctaata
351	ccgaaa	actg	aagttcc	cga	cgagcac	aca	ccgatga	tgt	caccagt
401	tacaact	taca	aagattc	tac	aacggag	tgg	tattaaa	atg	gaaatcc
451	catattt	tgga	tccagac	agt	caggatg	atg	acccgga	aga	tggtgtc
501	tacccgg	atc	cagattt	tatt	tgacaca	aaa	aacacaa	ata	tgaccga
551	cgatttg	gat	gtgttg	aagc	ttggaaa	aacc	agcagta	gat	gaagcac
601	aaaagat	cga	agttccc	gac	gctagt	gcgc	cgccaaa	caa	aattgt
651	tatttga	tgt	attatag	aac	gttaaaa	agaa	agtgaac	tca	tacaact
701	tgcgta	tgcg	acaaaac	gaa	atcgatt	atc	gttgaac	ttg	gtcaaaa
751	atattga	tgcg	agagttc	gac	caaaaag	cctt	gcgagtc	cct	ggtgaaa
801	ttgaagg	ata	agaaga	atga	tctccag	aac	ctgattg	atg	tggttct
851	aaaaggt	taca	aaatata	accg	gttgcat	tac	aattcca	agg	acacttg
901	gccggtt	taca	ggtccac	gga	agaaaag	ggtt	tccctca	cgt	agtctat
951	aaactgt	gga	ggttta	atga	aatgaca	aaa	aacgaaa	cgc	gtcatgt
1001	ccactgc	aag	cacgcatt	ttg	aaatgaa	aa	tgacatg	gta	tgcgta
1051	cctatca	cta	cgaaatt	gtc	attgga	acta	tgattgt	tgg	gcagagg
1101	catgaca	atc	gagata	tgcc	gccgcc	acat	caacgct	acc	acactcc
1151	tcggcag	gat	ccagttg	acg	atatga	gtag	atttata	cca	ccagctt
1201	ttcgtcc	gcc	tccgat	gaac	atgcaca	caa	ggcctca	gcc	tatgcct
1251	caattgc	cctt	cagttgg	cgc	aacgttt	gcc	catcctc	tcc	cacatcag
1301	gccacata	aac	ccagggg	ttt	cacatcc	gta	ctccatt	gct	ccacagac
1351	attaccc	ggtt	gaacat	gaac	ccaattc	cgc	aaatgcc	cga	aatgccac
1401	atgccac	cac	ctctcca	tca	gggatat	gga	atgaatg	ggc	cgagttg
1451	ttcagaa	aac	aacaat	ccat	tccacca	aaa	tcaccat	tat	aatgat
1501	gccatcc	aaa	tcactat	tcc	tacgact	gtg	gtccga	actt	gtacggg
1551	ccaactc	cctt	atccgg	attt	tcaccat	cct	ttcaatc	cagc	aaccaca
1601	gccgcc	acaa	ctatc	acaaa	accata	cgtc	ccaaca	aggc	agtcata
1651	cagggc	acca	aggtc	caggta	ccgaat	gatc	caccaat	ttc	aagacc
1701	ttacaac	cat	caacagt	cac	cttggac	gtg	ttccgtc	cggt	actgtag
1751	gacattt	gga	aatcgat	ttt	ttgaagg	aga	aagtga	acaa	tccggcg
1801	taattcg	gtc	tagta	acaaa	ttcattg	aag	aatttg	attc	gccgatt
1851	ggtgtg	acag	ttgttc	gacc	gcggat	gaca	gacggt	gagg	ttttgg
1901	catcat	gccg	gaagat	gcac	catatc	atga	catttg	caag	ttcattt
1951	ggctcac	atc	agaaagt	gta	actttct	cag	gagaggg	ggc	agaagtt
2001	gatttga	acg	aaaaat	gggg	aacaatt	gtg	tactat	gaga	aaaattt
2051	aattggc	gag	aaaaa	atggtt	cgagagg	aaa	tttccac	ggtg	gatggcg

Fig. 11C-1



Replacement Sheet

Title: Therapeutic and Diagnostic Tools for Impaired Glucose Tolerance Conditions

Applicant(s): Gary Ruvkun et al. Filing Date: April 27, 2001

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2101	tcatttgctc	tgagaatcgt	tacagtctcg	gacttgagcc	aatccaatt
2151	agagaaccag	tggcgtttaa	agttcgtaaa	gcaatagtgg	atggaattcg
2201	cttttcctac	aaaaaagacg	ggagtgtttg	gcttcaaaac	cgcatgaagt
2251	accgggtatt	tgtcacttct	gggtatctcg	acgagcaatc	aggaggccta
2301	aagaaggata	aagtgcacaa	agtttacgga	tgtgctgcta	tcaaaacggt
2351	tggcttcaac	gtttccaaac	aatcatcag	agacgcgctt	ctttccaagc
2401	aatggcaac	aatgtacttg	caaggaaaat	tgactccgat	gaattatatac
2451	tacgagaaga	agactcagga	agagctgcga	agggaagcaa	cacgcaccac
2501	tgattcattg	gccaaagtact	gttgtgtccg	tgtctcgttc	tgcaaaggat
2551	ttggagaagc	ataccagaa	cgcccgtaa	ttcatgattg	tccagtttgg
2601	attgagttga	aatcaacat	tgcctacgat	ttcatggatt	caatctgcca
2651	gtacataacc	aactgcttcg	agccgctagg	aatggaagat	tttgcaaaat
2701	tgggaatcaa	cgtcagtgat	gactaaatga	taactttttt	cactcaccct
2751	actagatact	gatttagtct	tattccaaat	catccaacga	tatcaaactt
2801	tttcctttga	actttgcata	ctatgttatc	acaagttcca	agcagtttca
2851	atacaaacat	aggatatgtt	aacaactttt	gataagaatc	aagttaccaa
2901	ctgttcattg	tgagctttga	gctgtataga	aggacaatgt	atcccatacc
2951	tcaatcttta	atagtcatca	gtcactggtc	ccgcaccaat	tttttcgatt
3001	cgcatatgtc	atatattgca	ccgtggccct	ttttattgta	acttttaata
3051	tattttcttc	ccaacttgtg	aatatgattg	atgaaccacc	attttgagta
3101	ataaatgtat	tttttgtgg			

Fig. 11C-2

05/13/03
11:00 AM
11/11/03



1	cggaagccat	ggagctcgag	atctgattgc	tggacacgga	cggaactccg	acgtatctcg
61	cagatgcatg	ttaacatttt	acatccacaa	ctgcaaacga	tggctcgagca	gtggcaaatg
121	cgagaacgcc	catcgctgga	gaccgagaat	ggcaaaggat	cgctgctcct	ggaaaatgaa
181	ggtgtcgag	atatcatcac	tatgtgtcca	ttcggagaag	ttattagtgt	agtatttccg
241	tggtttcttg	caaatgtgcg	aacatcgcta	gaaatcaagc	tatcagattt	caaacatcaa
301	cttttcgaat	tgattgctcc	gatgaagtgg	ggaacatatt	ccgtaaagcc	acaggattat
361	gtgttcagac	agttgaataa	tttcggcgaa	attgaagtta	tatttaacga	cgatcaaccc
421	ctgtcgaaat	tagagctcca	cggcactttc	ccaatgcttt	ttctctacca	acctgatgga
481	ataaacaggg	ataaagaatt	aatgagtgat	ataagtcatt	gtctaggata	ctcactggat
541	aaactggaag	agagcctcga	tgaggaactc	cgtcaatttc	gtgcttctct	ctgggctcgt
601	acgaagaaaa	cgtgcttgac	acgtggactt	gagggtagca	gtcactacgc	gttccccgaa
661	gaacagtact	tgtgtgttgg	tgaatcgctc	ccgaaagatt	tggaaatcaa	agtcaaggct
721	gccaagctga	gttatcagat	gttttgagga	aaacgtaaag	cggaaatcaa	tggagtgtgc
781	gagaaaatga	tgaagattca	aattgaattc	aatccgaacg	aaactccgaa	atctctgctt
841	cacacgtttc	tctacgaaat	gcgaaaattg	gatgtatacg	ataccgatga	tcctgcagat
901	gaaggatggt	ttcttcaatt	ggctggacgt	accacgtttg	ttacaaatcc	agatgtcaaa
961	cttacgtctt	atgatggtgt	ccgttcggaa	ctggaaagct	atcgatgcc	tggattcgtt
1021	gttcgccgac	aatcactagt	cctcaaagac	tattgtcgcc	caaaaccact	ctacgaacca
1081	cattatgtga	gagcacacga	acgaaaactt	gctctagacg	tgctcagcgt	gtctatagat
1141	agcacaccaa	aacagagcaa	gaacagtgc	atgggtatga	ctgattttcg	tccgacagct
1201	tcactcaaac	aagtttcaat	ttgggacctt	gacgcgaatc	ttatgatacg	gcctgtgaat
1261	atttctggat	tcgatttccc	ggccgacgtg	gatatgtacg	ttcgaatcga	attcagtgta
1321	tatgtgggga	cactgacgct	ggcatcaaaa	tctacaacaa	aagtgaatgc	tcaatttgca
1381	aaatggaata	aggaaatgta	cacttttgat	ctatacatga	aggatatgcc	accatctgca
1441	gtactcagca	ttcgtgtttt	gtacggaaaa	gtgaaattaa	aaagtgaaga	attcgaagtt
1501	ggttgggtaa	atatgtccct	aaccgattgg	agagatgaac	tacgacaagg	acaattttta
1561	ttccatctgt	gggctcctga	accgactgcc	aatcgtagta	ggatcggaga	aaatggagca
1621	aggataggca	ccaacgcagc	ggttacaatt	gaaatctcaa	gttatggtgg	tagagtctga
1681	atgccgagtc	aaggacaata	cacatatctc	gtcaagcacc	gaagtacttg	gacggaaact
1741	ttgaatatta	tgggtgatga	ctatgagtcg	tgtatcagag	atccaggata	taagaagctt
1801	cagatgcttg	tcaagaagca	tgaatctgga	attgtattag	aggaagatga	acaacgtcat
1861	gtctggatgt	ggaggagata	cattcaaaaag	caggagcctg	atttgctcat	tgtgctctcc
1921	gaactcgcat	ttgtgtggac	tgatcgtag	aacttttccg	agctctatgt	gatgcttgaa
1981	aaatggaaac	cgccgagtgt	ggcagccgcg	ttgactttgc	ttggaaaacg	ttgcacggat
2041	cgtgtgattc	gaaagtttgc	agtggagaag	ttgaatgagc	agctgagccc	ggtcacattc
2101	catcttttca	tattgcctct	catacaggcg	ttgaagtacg	aaccgcgtgc	tcaatcgga
2161	gttggaatga	tgcctttgac	tagagctctc	tgcgattatc	gaattggaca	tcgacttttc
2221	tggctgctcc	gtgcagagat	tgcctcgtttg	agagattgtg	atctgaaaag	tgaagaatat
2281	cgccgtatct	cacttctgat	ggaagcttac	ctccgtggaa	atgaagagca	catcaagatc
2341	atcaccgcgac	aagttgacat	ggttgatgag	ctcacacgaa	tcagcactct	tgtcaaagga
2401	atgccaaaag	atgttgctac	gatgaaactg	cgtgacgagc	ttcgatcgat	tagtcataaa
2461	atggaaaata	tggattctcc	actggatcct	gtgtacaaac	tgggtgaaat	gataatcgac
2521	aaagccatcg	tcctaggaag	tgcaaaacgt	ccgttaatgc	ttcactggaa	gaacaaaaat
2581	ccaaagagtg	acctgcacct	tccgttctgt	gcaatgatct	tcaagaatgg	agacgatctt
2641	cgccaggaca	tgcttgttct	tcaagttctc	gaagttatgg	ataacatctg	gaaggctgca

Fig. 15-1



2701 aacattgatt gctgtttgaa cccgtacgca gttcttccaa tgggagaaat gattggaatt
2761 attgaagttg tgcctaattg taaaacaata ttcgagattc aagttggaac aggattcatg
2821 aatacagcag ttcggagtat tgatccttcg tttatgaata agtggattcg gaaacaatgc
2881 ggaattgaag atgaaaagaa gaaaagcaaa aaggactcta cgaaaaatcc catcgaaaag
2941 aagattgata atactcaagc catgaagaaa tattttgaaa gtgtcgatcg attcctatac
3001 tcgtgtgttg gatattcagt tgccacgtac ataatgggaa tcaaggatcg tcacagtgat
3061 aatctgatgc tcaactgaaga tggaaaatat gtccacattg atttcggtca cattttggga
3121 cacggaaaga ccaaacttgg gatccagcga gatcgtcaac cgtttattct aaccgaacac
3181 tttatgacag tgattcgatc gggtaaactc gtggatggaa attcgcatga gctacaaaaa
3241 ttcaaaacgt tatgcgtcga agcctacgaa gtaatgtgga ataatcgaga tttgttcggt
3301 tccttgttca ccttgatgct cggaatggag ttgcctgagc tgtcgacgaa agcggatttg
3361 gatcatttga agaaaaccct cttctgcaat ggagaaagca aagaagaagc gagaaagttt
3421 ttcgctggaa tctacgaaga agccttcaat ggatcatggt ctaccaaaac gaattggctc
3481 ttccacgcag tcaaacta ctga

Fig. 15-2

[illegible]

Fig. 21A-1



Hnf3a	SLITMAIQRA	PSKMLTLSEI	YQWIMDLFPY	RQNRQOR...	WQNSIRHS	LSND	227
Hnf3g	SLITMAIQQA	PGKVLTLSEI	YQWIMDLFPY	RDNRQOR...	WQNSIRHS	LSND	171
D16123a467891011	ELITTAIMAS	PEKRLTLAOM	YEMMVQNVPI	FRDKGDSNSS	AGWKNISIRHN	LSLHS	205
D1612567891011	DIHAKALES	PDGRLKLNEL	YQWFSNIPY	FGERSSPEEA	AGWKNISIRHN	LSLHS	330
Afx	ELISQAIESA	PEKRLTLAOL	YEMMVRTVPI	FKDKGDSNSS	AGWKNISIRHN	LSLHS	158
Fkhr	DLITKAIESS	AEKRLTLSQL	YEMMVKSVPY	FKDKGDSNSS	AGWKNISIRHN	LSLHS	221
Consensus	-LIT-AI--A	P-KRLTL--I	Y-W-----PY	F-D-----	AGWKNISIRHN	LSLHS	330
Hnf3a	CFVKVARSPM	KPGKGSWTL	HPDSG	.....NM	FENGCYLRRQ	KRFKC	269
Hnf3g	CFVKVARSPM	KPGKGSWTL	HPSSG	.....NM	FENGCYLRRQ	KRFKL	213
D16123a467891011	RFMRQON..E	GAGKSSWVVL	NPD.AKPGMN	PRRTRETSNT	IETTTKAQLE	KSRRG	257
D1612567891011	RFMRQON..E	GAGKSSWVVL	NPD.AKPGMN	PRRTRETSNT	IETTTKAQLE	KSRRG	382
Afx	KFIKVHN..E	ATGKSSWVVL	NPEGKSGKA	PRR...RAAS	MDSSSKLLRG	SKAP	208
Fkhr	KEIRVQN..E	GTGKSSWVVL	NPEGKSGKS	PRR...RAAS	MDNNSKFACS	SRAA	271
Consensus	-F--V-N--E	--GKSSWV--E	NP--GK-G--	PRR--R-N--	-E--K--	KS---	385
Hnf3a	EKQPGAG...	GGGSGSGGS	GAKGGPESRK	DPSGASNPISA	DSPLHRGVHG	KTGQL	321
Hnf3g	EEKVKKG...	GSGASTTRNG	TGSAASTTTP	AATVTSPP	.....	.....	248
D16123a467891011	AKKRRIKERAL	MGSJHSTLNG	NSIAGSIQTI	SHDLYDDDDSM	QGAFDNVPSS	FRPRT	312
D1612567891011	AKKRRIKERAL	MGSJHSTLNG	NSIAGSIQTI	SHDLYDDDDSM	QGAFDNVPSS	FRPRT	437
Afx	KKKP.....	SVLPAPPEG	ATPTSPVGHF	AKWSGSPCSR	NREEADMWTT	FRPRS	256
Fkhr	KKKA.....	S.LQSGQEG	AG.DSPGSQF	SKWPASPGSH	SNDDFDNWST	FRPRT	317
Consensus	-KK-----	--F-----G	-----S--S-	-----S--S-	-----	FRPR--	440
Hnf3a	EGAPAPGPAA	SPQTLDHSGA	TATGGASELK	TPASSSTAPPI	SSGPGALASV	PASHP	376
Hnf3g	.QPPPPAPEP	EAQGGEDVGA	LDCGS	.PASSTP...	.....	.....	278
D16123a467891011	QSNLS.....	.....	.....	IPGSS.SRVS	PAIGS.....	.....	331
D1612567891011	QSNLS.....	.....	.....	IPGSS.SRVS	PAIGS.....	.....	456
Afx	SSNASSVSTR	LSPLRPESEV	LAEE.....	IPASV.SSYA	GGVPPTLN..	..EGL	300
Fkhr	SSNASTISGR	LSPIMTEQDD	LGEQDVHSMV	YPPSA.AKMA	STLPSLSEIS	NPENM	371
Consensus	-SN-S-----	-----	-----	-P-SS-----	-----	----	495
Hnf3a	AHGLAPHEEQ	LHLKGDPHYS	FNHPFSINNLL	MSS.SEQQHK	LDFKAYEQAL	QYSPY	430
Hnf3g	..YFTGTELP	GDLKLDAPYN	FNHPFSINNLL	MSEQTPAPPK	LD.....V	GFGGY	324
D16123a467891011	.DIYDDDEF.	..PSWVGESV	PAIE.....	.....	.....	.....	351
D1612567891011	.DIYDDDEF.	..PSWVGESV	PAIE.....	.....	.....	.....	476
Afx	E.LLDGGLNT	SSHSLLSRSG	LSG.....	.....	FSLQHPGVGT	PLHTY	337
Fkhr	ENLLDNLL	SSPTSLTVST	QSSEGTMMQO	TPCYSFAPPN	TSLNSPSPNY	QKITY	426
Consensus	-----D-DE--	-----S-	-----E-	-----	-----	-----Y	550

Fig. 21A-2



Hnf3a	GSTLPASLPL	GSASVTRSP	IEPSALEPAY	YQGVYSRPPV	NTS	.....	473
Hnf3g	GAE	.....	CEPGVY	YQGLYSRSLP	NAS	.....	347
D16123a467891011	.....	RTDQRRIDAT	THICGVQ	IKQESKPIK	TEPIAPPPSY	HELNS	397
D1612567891011	.....	RTDQRRIDAT	THICGVQ	IKQESKPIK	TEPIAPPPSY	HELNS	522
Afx	SSSLFSP	.....	AE	SSSQALEALP	TSDDTTPPAD	VLMTQ	381
Fkhr	GQSSMSPLPQ	MPIQTLQDNK	SSYCGMSQYN	CAPGLLKEL	TSDDSPH..N	DIMTP	479
Consensus	-----S	-----	-----GG	-----S	-----E	-----	605
Hnf3a	.....	.....	.....	.....	.....	.....	473
Hnf3g	.....	.....	.....	.....	.....	.....	347
D16123a467891011	VRGSCAONP	.....	.....	AYGNYQNGGI	TPINWLSTSN	SSPLP	450
D1612567891011	VRGSCAONP	.....	.....	AYGNYQNGGI	TPINWLSTSN	SSPLP	575
Afx	VDPILSOAPT	LL	.....	LPSS..SKLA	TGVGLC...	PKPLE	416
Fkhr	VDPGVAOPNS	RVLGQNVMMG	PNSVMSTYGS	QASH..NKMM	NPSSHTHPGH	AQOTS	532
Consensus	-----Q	-----	-----	-----	-----	-----	660
Hnf3a	.....	.....	.....	.....	.....	.....	473
Hnf3g	.....	.....	.....	.....	.....	.....	347
D16123a467891011	GIQSCGIVAA	QHTVASSSAL	PIDLENLTLP	DQPLMDTM..	.....	.....	488
D1612567891011	GIQSCGIVAA	QHTVASSSAL	PIDLENLTLP	DQPLMDTM..	.....	.....	613
Afx	ARGPSSLVPT	LSMIAPPPVM	AS	APLPKALGT	PVLTPTTEAA	S....	458
Fkhr	AVNGRPLPHT	VSTMPHTSGM	NRLTQVKTPV	QVELPHPMQM	SALGGYSSVS	SCNGY	587
Consensus	-----	-----	-----	-----E	-----	-----	715
Hnf3a	.....	.....	.....	.....	.....	.....	473
Hnf3g	.....	.....	.....	.....	.....	.....	347
D16123a467891011	.....	.....	.....	.....	.....	.....	510
D1612567891011	.....	.....	.....	.....	.....	.....	635
Afx	.....	QDR	MPQDLDLDMY	MENLECDMDN	ISDLMDDEGE	GLDFNFEPPDP	501
Fkhr	GRMGLLHQEK	LPSDLD.GMF	IERLDCDMS	ILRNDLMDGD	TLDNFEDNVL	PNQSF	641
Consensus	-----	-----	-----D	-----H	-----E	-----	770
Hnf3a	.....	.....	.....	.....	.....	.....	473
Hnf3g	.....	.....	.....	.....	.....	.....	347
D16123a467891011	.....	.....	.....	.....	.....	.....	510
D1612567891011	.....	.....	.....	.....	.....	.....	635
Afx	.....	.....	.....	.....	.....	.....	501
Fkhr	PHSVKTTTHS	WVSG	.....	.....	.....	.....	655
Consensus	-----	-----	-----	-----	-----	-----	784

Fig. 21A-3